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PASADENA'S MUNICIPAL LIGHT AND POWER PLANT

By C. WELLINGTON KOINER,

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The city of Pasadena made the first plans for installing an electric utility in 1906. The city was compelled to abandon the private light corporation and to establish a municipal light and power plant, in order to supply good service for street lighting, and to give her citizens electrical energy at a reasonable price. The first installment of bonds was voted in 1906, and marked the beginning of one of the most unrelenting fights between private and public interests that any American municipality has had to maintain in putting into operation a utility of this kind.

Pasadena has the reputation of being a city of wealth and culture; yet, contrary to what one would naturally expect, it is operating under one of the most democratic charters. This charter provides:

That the city shall have the power to purchase, receive, have, hold, lease, use and enjoy property of every kind and description both within and without the limits of the city, and control and dispose of same for the common benefit.

And it specifically provides:

That the city shall have the power to construct and maintain water works, pipes, pipe lines, aqueducts and hydrants for supplying the city and its inhabitants with water, and the right to supply water to persons not living within the city.

To construct and maintain gas illuminating works for supplying the city and its inhabitants with light, heat and power.

To construct and maintain works for supplying the city and its inhabitants with telephonic and telegraphic service.

To construct and maintain and operate street railways and other means of conveyance, together with all rolling stock, power houses, equipment, appliances and appurtenances necessary to the proper use, operation, management and control of same.

Although fully aware of the powers thus conferred upon the city of Pasadena by her charter, The Edison Electric Company, a cor-

poration now known as the Southern California Edison Company, sought to contest the city's right to issue bonds for the purpose of building its own electric utility. They sought to have the city restrained from issuing the first installment of bonds, and put every obstacle they could in her way, causing the city much trouble, in that the legal department was compelled to prepare the cases and answer all of the innumerable complaints that could be devised by a company of this kind.

Pasadena was extremely fortunate at this time in having as city attorney the Hon. J. Perry Wood, who represented the municipality in its actions, and well deserves the credit of having successfully combatted this powerful corporation at every turn in defense of the city's right. In every instance, when a case was to come before the courts, the company would pray for its dismissal, and in each instance this was granted. The city's legal department was thus put to a great deal of trouble in going into the matter and preparing the city's cases and getting everything ready for the hearings.

The fact that the first bonds carried by only fourteen votes necessitated going carefully into a recanvass of all the votes cast at the election. However, the case to restrain the city from selling its bonds was dismissed, and the recount of the ballots did not change the results of the election. The city therefore proceeded to sell its bonds. At this point more obstacles were encountered. Influences were at work to prevent the city from disposing of its bonds, regardless of the fact that no city in the country should have any better credit than Pasadena. Nevertheless, the bonds were finally disposed of.

In addition to the first installment of bonds, an appropriation for the year 1906-1907 was covered by putting into the taxes for that year a levy of 18 cents on every hundred dollars' assessed valuation. This raised \$52,758, which was added to the first bond issue for construction and extensions. The city was only preparing to build a plant for operating street lights at this time, though its intention was to enter into the commercial light and power business later. The first installment of the plant was finished and the streets of the city illuminated by the municipal plant on July 1, 1907.

Pasadena was growing very fast, and we required considerable extensions in poles, wires and other equipment for street lighting. These needs increased until they finally covered commercial light

and power. The power company was in the habit of requiring people who wanted light to put up a certain amount of cash per pole for extensions to reach their property in various parts of the city. The high cost of current and the policy of the company in dealing with its patrons hastened the city's going into the business of furnishing electrical energy for commercial light and power purposes. In 1908 an additional bond issue of \$50,000 was voted for the purpose of completing the street lighting system, and using whatever balance remained for entering upon the commercial light and power business.

The writer took charge of the Pasadena plant March 1, 1908. At this date the plant had been furnishing street lights for eight months, and had not yet won the confidence of all the people. The street lighting system was soon completed with the \$50,000 of bond money. Out of this sum there remained a balance of approximately \$14,000, which was used for the commercial light and power end of the business. On October 1, 1908, the first customers were supplied. Others were supplied with current as fast as the city's funds would permit.

The citizens of Pasadena had been paying 15 cents per kilowatt hour prior to the installation of the municipal light and power plant. However, to forestall the installation of this plant, the Edison Company dropped to a rate of $12\frac{1}{2}$ cents per kilowatt hour for the first 666 kilowatt hours, less 10 per cent for prompt payment.

It was calculated that the city should begin serving electrical energy at this period for a maximum base rate of 8 cents per kilowatt hour scaling down for quantity consumption, with a minimum of 80 cents per month; and a base rate of 4 cents per kilowatt hour for power, scaling down for quantity consumption, with the promise of further reductions as business increased. These rates were met by the corporation with the offer of flat rates along streets where the city had begun to furnish commercial light and power. People who had been paying the company high rates were now offered electrical energy in some cases at \$1.25 per month flat rate, without limit as to quantity used, free lamps were provided, and the loan of heating appliances in some cases—in fact, any accommodation to prevent the consumers from using city service.

We immediately saw that, to protect the city's interests, it was necessary to provide by ordinance that all current must be sold by meter measurement, allowing the corporation to make any meter

charge that it chose, with a maximum of 11 cents per kilowatt hour.

We at this time asked for a bond issue of \$150,000 for extending commercial light all over the city. For only a few short months had the people had the advantages of cheap electrical energy, and they showed their appreciation by voting the bonds seven to one in favor of extending the plant, which, by the way, settled the policy of the city of Pasadena in regard to municipal ownership in our city. After the bonds were carried by this large majority, there was no question about the people wanting to extend the municipal system.

With this money and our earnings we proceeded to enlarge the plant and extend it over the entire city. As our business increased during the period of construction, we reduced the rates to 7 cents per kilowatt hour. The private company, always operating below us in rates, immediately established a 5 cent rate, which was 2 cents below our maximum base rate for light. This, of course, was done with the view of preventing the city from obtaining customers, and of making the city's plant unprofitable. However, the company's plan of underselling did not prevent loyal Pasadenans from supporting their own plant, even at the higher rate. Their support resulted in a larger output and enabled the plant to demonstrate the truth regarding cost of generation and distribution of electric current.

The earnings of the municipal plant were such that the city again lowered the rates to a maximum base rate of 5 cents per kilowatt hour for light, scaling down to 3 cents, and a maximum base rate for power of 4 cents, scaling down to 1.2 cents per kilowatt hour. Up to the time of this reduction to 5 cents, the private corporation was charging the same maximum base rate. It immediately lowered its rate to 4 cents, with the threat that it would go below any rate made by the city. This difference in rates continued until September, 1913. However, in spite of the difference in rates charged at this time, the number of consumers of municipal energy increased to 5,000.

The city had the legal right to fix the rates for electrical energy, and could have regulated the rates of any private corporation to those charged by the city. The writer favored this action, as he had always believed that a large corporation, furnishing electrical energy to eighteen or twenty communities from a common hydro-electric system, should not play one community against another by selling current below cost in one, to throttle a competitor located

there, and recoup its losses by charging higher rates in all, or some, of the others.

In March, 1913, the city of Pasadena finally passed an ordinance to take effect some months later, regulating the power rates to equal those charged and fixed by the utilities board of the city of Los Angeles, with the provision that either the municipal light department or the private corporation in competition with the city could file a schedule of lower rates than those fixed by the city, providing, however, that with the schedule was filed an inventory of their property and a statement of income and expenses, showing that their business was earning at least 4 per cent on the legitimate investment in the property.

To comply with the ordinance, the city immediately filed its schedule of property—(I might add here that the city has always complied with ordinances of this character)—showing that we were earning at least 4 per cent, on our investment. The company, however, did not file a schedule until January, 1914, at which time they asked to lower their power rates to those employed by the city of Pasadena. In their schedule of property the company figured an investment against Pasadena, as of December 31, 1913, of \$940,-461.44 tangible property, to which they added \$235,115.36 to cover going value and other intangibles. In submitting this statement of property, income and expenses, they showed a deficit of \$9,286.26, not including interest on tangible investment, which, if added, would increase their deficit to approximately \$46,904.72. The city commission did not acquiesce in this reduction at once, and notified the company's representatives to explain to them how they were going to turn the deficit of previous years into profit the coming year, so as to show a return of at least 4 per cent on their investment. Inasmuch as the burden of further loss was all on the company, they were permitted to lower the rates to those charged by the city for power. It remains to be seen whether or not the company can show an earning of 4 per cent on their investment the coming year at this lower rate, in view of the fact that 1,927 electric meters have been added to the lines of the city's plant during the year ending June 30, 1914, and we are still gaining at a rapid rate.

Relative to the lighting rates of the power company, The Unjust Competition Act, Senate Bill 53, Chapter 276, was passed by the last state legislature. This bill was prepared by the Honorable

Senator William J. Carr, formerly our city attorney, and provided for the prevention of unfair practice on the part of utility and other corporations, which furnished commodities in one community and discriminated against other communities. It was this act which resulted in the company's asking to equalize their rates the same as those charged by the city of Pasadena in September, 1913. As is evident, the corporation was compelled to choose between doing this and lowering their rates in other communities served to those rates it had been freely giving in the city of Pasadena. Since the equalization of rates, the city has increased its customers to 7,112 as of October 26, 1914.

At the time the first bonds were issued to build the city plant, no direct offer was made to the company by the city to purchase its system. However, in 1909, when the bond issue for extending the municipal commercial light and power service carried by a vote of seven to one, a proposition was made to the private corporation for the purchase of its distributing system, and also for the purchase of electrical energy, providing it could be obtained cheaper than the city could generate it with its steam plant. The private corporation made a counter proposition to purchase the city's plant. The facts are, the city was in the market to purchase but not to sell. The city's answer, as a result of these negotiations, was a redoubled effort to enlarge its plant and increase its business with the proceeds of the bond issue of \$150,000.

Since this time the city has had negotiations with the company's representatives with an idea of purchasing the Edison Company's distributing system in the city of Pasadena, but without success, the company refusing to dispose of its property in that locality. It is doubtful, however, whether Pasadena will again offer to purchase the system of its competitor. The city has extended its lines throughout its entire territory, and to purchase the company's system now would result only in burdening the taxpayers with a large sum for duplicate property, most of which the municipal plant could no longer use. Now that the rates are equal, the fight will be finished on the basis of service.

The question naturally arises in the minds of some, "Why is it that everybody does not use municipal light and power?" This can be answered only by stating that Pasadena is the home of a large number of the officials of the Southern California Edison Company,

and approximately 76 of its stockholders. As a matter of course, the company brought to bear every possible influence against the successful operation of a city plant. The question can also be answered by stating that a corporation receiving liberal rates for its service often uses a portion of the money thus obtained from the citizens, to deceive them through the medium of newspapers, periodicals, paid solicitors, and other means. Pasadena has been fortunate in having the undivided support of one good, clean newspaper. In fact, we had the support of both newspapers at the start, until one changed ownership and suddenly changed its policy. It has required a fighting spirit on the part of the city officials to stand up against the continued and various onslaughts of the corporation. Attacks would be made, and some citizen who, perhaps, was under obligations to the company would sign them. However, in the end these have all worked as a boomerang against the corporation itself.

The paper that changed its policy made a practice of attacking the writer in a most villianous manner, in the effort to pick to pieces various monthly reports which gave details of operation of the department. Time, however, has given added proof of the correctness of these reports. No attention was paid to these attacks. The paper just cited has changed management several times, and has recently been sold, and we sincerely trust it will once more join the ranks of our supporters.

It has required faithfulness and loyalty on the part of our citizens to pay their municipal plant, month after month for over six years, fully 25 per cent more than the private corporation charged. Pasadena has been reputed to be a city of wealth and culture, yet it is made up of a majority of people who are cultured but not wealthy. Nevertheless the people of small means have loyally and faithfully patronized their own plant, extending their limited custom as their contribution to make municipal ownership a success. And here I might add that most power companies claim there is little to be earned in supplying the residence section of a city. In Pasadena we began furnishing the residence section first and found that at former charges for current great profits must have been realized from supplying residences. The fact is, the business section of Pasadena is comparatively small for a city of 42,000. Los Angeles is a great business center and so close at hand that a large proportion

of Pasadena's residents transact much of their business there. It is only within the last few years that our business section has expanded. Furthermore, we have very little manufacturing; therefore, our receipts from power sales are lower than in most other cities of like size. The claim, therefore, that it is not profitable to serve the residence section of a city at a low rate, has been exploded, although some companies even claim it is unprofitable to serve the residence section of a city. Yet 53.6 per cent of our business is carried on in the residence sections, leaving 26.9 per cent for power, and 19.5 per cent for commercial light.

You will concede that in the past many cities have seriously discussed municipal ownership of electric light and power; but they have failed to get started, because of the opposition of private interests. Every success like that of Pasadena, Seattle, Alameda, Riverside, Tacoma, and other plants on the Pacific coast, and Marquette, Michigan; Holyoke, Massachusetts; Jacksonville, Florida; Kansas City, Kansas; South Norwalk, Connecticut; Winnipeg, Canada; Cleveland, Ohio, and various other successful municipal plants, hastens the time when all cities will be too well informed to be affected by such opposition as that offered by private corporations. San Francisco's undertaking in municipal ownership of street railways, for instance, is most successful and akin to an electric light and power enterprise.

The question was propounded by the corporation and never allowed to rest, "If the city of Pasadena has the right to regulate rates, why build a municipal plant?"

The answer is that, through no regulating body in existence in the United States today can a city regulate rates and service to the satisfaction of the public as can be done by a municipally owned and operated plant, conducted as a business proposition. It is not because the regulating body does not serve the public to the best of its ability, but it is because of the obstacles confronting it. Higher values must be allowed, or generally are allowed, owing to the intangibles added to the value of the tangible property, when placing values upon the property of public service corporations, as compared with the real cost of a municipally owned plant. The cost of money is greater to the public service corporation than to the municipality, and the operating expenses are generally higher.

Heretofore utility corporations have regulated cities instead of

a city's regulating rates for utility service. Now, however, a change involving a hard struggle is taking place, and during the course of this struggle, cities are learning that it is far better to operate certain of their own utilities than to leave them in private hands, even under the best of regulation. Witness the rates charged in cities where regulating bodies have power to regulate rates; compare them with the rates charged by municipally owned and operated plants giving a high class service, and you will find that the lowest rates in the United States are those charged by municipally owned utilities. It takes as much ability to regulate rates as it does to operate a utility. While applying such ability in regulation, it would be better to apply it to operation and to allow the city's patrons as a whole to receive any additional benefits.

As to any city's ability to manage its utilities, the writer believes that a city government is as good as the people make it. So it remains with the people of a community to maintain such a standard of government that there will be no question as to the fidelity with which any of its departments of utilities is managed. Although as yet unused in Pasadena, we have the mighty instruments of initiative, referendum and recall, which can be made a corrective power in the conduct of public business.

Some prominent people have stated that the initiative, referendum and recall, and other progressive laws, are distinctly un-American. Those who make these statements forget that this is a republic—a democratic form of government—and that the people should rule, or should have the privilege of ruling if they so desire. We all agree that every individual should have the power to choose and make his own living, and should be given freedom to conduct business along legitimate lines. However, this does not prevent the government or a municipality from conducting its own utilities. Why should the city run the sewer system, police department, insane asylums, parks, schools, garbage incinerators—all of which are non-profit sharing utilities—and turn the electric light, gas, telephone, water, street railway properties—which are profit sharing—over to private corporations?

Some of the communities on the Pacific coast have arrived at the conclusion that it is time for them to begin to acquire and operate all profit earning utilities, in addition to the non-profit earning utilities they already operate.

A civic bulletin published monthly by the City Club of Berkeley, California, dated March 20, 1914, contained a report entitled "The Success of Municipal Ownership of Electric Light Plants in California. The Situation in Berkeley."

First, a Financial Statement of the Operation of Municipal Plants in California.

Second, Conclusions and Criticisms.

Third, The Lighting Situation in Berkeley.

Fourth, Detailed Statement for the Three Largest Plants in California.

The financial success of public ownership and operation is clearly shown by comparing the summaries of reports of the seventeen lighting plants in this state.

It is interesting to note the great variety in size and character of the cities in this list, which demonstrates that the ability to operate public utilities is not a question of population or location. The degree of success depends, as in private business, largely upon the ability of the man in charge of the undertaking.

A personal inspection was made by one of the committee of all these plants and the information given in this report was obtained directly from the various officials.

These figures have been carefully analyzed and checked, and referred to the several cities for correction and approval.

(Signed) The Municipal Lighting Committee.

J. T. WHITTLESEY, *Chairman*,

T. H. FALLON,

W. L. HUBER,

J. J. JESSUP.

The saving resulting to the citizens of Pasadena by reason of the difference in rates charged by both the private company and the municipal plant within the limits of Pasadena, and the rates charged by the company during the same period in the surrounding towns, since then, is a tremendous one. It amounts to \$731,083.96, or more than enough to cover the entire cost of our municipal plant. This is a very conservative estimate, and is based on the kilowatt hours sold.

Pasadena has a net investment in its municipal light and power plant in the sum of \$566,633.75, after allowing for depreciation. After paying all operating expenses, charging \$118,899.80 for interest on the total average investment, and charging off for depreciation the sum of \$130,871.31, this department has a surplus of \$71,110.08. As will be shown on page 21 of the *Seventh Annual Report*, there

was a deficit during the first two years. This was all wiped out in subsequent years as can readily be seen from the above.

While the competitor of the municipal plant in Pasadena is enjoying the privileges of hydro-electric power, the city of Pasadena has been operating a steam plant, generating electricity by means of crude oil at prices ranging from 70 cents to 96 cents per barrel, or equivalent to a rate of \$3.25 per ton for coal. The people have been highly pleased with the service rendered by the city for the reason that the steam plant, located in the city close to the distributing system, is much more reliable than long distance transmission lines, which sometimes go out of service in times of storm, to the great inconvenience of consumers. (This does not apply to hydro-electric plants located close to the distributing system.)

Our schedules of rates are not compiled with a purpose of charging all that a customer can be made to pay, levying a high rate for residences and lower rates for business houses, etc.; but all our customers pay the first rate for the first quantity and the same rates for the same succeeding quantities—no preference. The same thing applies to electrical energy for both light and power purposes.

The rates for electric energy for all classes of service are as follows:

Street Lighting Rates

	per annum
Arc Lamps, 6.6 ampere.....	\$60.00
60 c.p. Tungstens.....	12.00
80 c.p. Tungstens.....	12.00
200 c.p. Tungstens.....	48.00
400 c.p. Tungstens.....	60.00
Cluster posts 3 cents to 4.3 cents per kilowatt hour.	
	per kwh.
Average rate received for cluster lighting for past year.....	.03412
Average rate received for all street lighting.....	.04681

Power Rates

"Class A"—The first 100 kilowatt hours of energy, or less, furnished in any one month to any consumer, 4 cents per kilowatt hour.

"Class B"—The kilowatt hours of energy furnished in any one month to any consumer in excess of one hundred kilowatt hours, and not exceeding 300 kilowatt hours, 2.4 cents per kilowatt hour.

"Class C"—The kilowatt hours of energy furnished in any one month to any consumer in excess of 300 kilowatt hours, and not exceeding 500 kilowatt hours, 2.4 cents per kilowatt hour.

"Class D"—The kilowatt hours of energy furnished in any one month to any consumer in excess of 500 kilowatt hours, and not exceeding 1,000 kilowatt hours, 2 cents per kilowatt hour.

"Class E"—The kilowatt hours of energy furnished in any one month to any consumer in excess of 1,000 kilowatt hours, and not exceeding 1,500 kilowatt hours, 2 cents per kilowatt hour.

"Class F"—The kilowatt hours of energy furnished in any one month to any consumer in excess of 1,500 kilowatt hours, and not exceeding 2,000 kilowatt hours, 1.9 cents per kilowatt hour.

"Class G"—The kilowatt hours of energy furnished in any one month to any consumer in excess of 2,000 kilowatt hours, and not exceeding 3,000 kilowatt hours, 1.8 cents per kilowatt hour.

"Class H"—The kilowatt hours of energy furnished in any one month to any consumer in excess of 3,000 kilowatt hours, 1.2 cents per kilowatt hour.

A monthly minimum charge will be collected for electrical energy of \$1 per meter of $1\frac{1}{2}$ kilowatt capacity or less, and \$.75 for each additional kilowatt of meter capacity required.

per kwh.

Average rate received from the sale of electrical energy for power
for the past year..... .01942

Lighting Rates

For incandescent lighting:

"Class A"—The first 100 kilowatt hours, or less, of energy furnished in any one month to any consumer, 5 cents per kilowatt hour.

"Class B"—The kilowatt hours of energy furnished in any one month to any consumer in excess of 100 kilowatt hours, and not exceeding 500 kilowatt hours, $4\frac{1}{2}$ cents per kilowatt hour.

"Class C"—The kilowatt hours of energy furnished in any one month to any consumer in excess of 500 kilowatt hours, and not exceeding 1,000 kilowatt hours, 4 cents per kilowatt hour.

"Class D"—The kilowatt hours of energy furnished in any one month to any consumer in excess of 1,000 kilowatt hours, and not exceeding 2,000 kilowatt hours, $3\frac{1}{2}$ cents per kilowatt hour.

"Class E"—The kilowatt hours of energy furnished in any one month to any consumer over 2,000 kilowatt hours, 3 cents per kilowatt hour.

For arc lighting:

"Classes A Arc"—The first 100 kilowatt hours, or less, of energy furnished in any one month to any consumer, 4.9 cents per kilowatt hour.

"Class B Arc"—The kilowatt hours of energy furnished in any one month to any consumer in excess of 100 kilowatt hours, and not exceeding 500 kilowatt hours, $4\frac{1}{2}$ cents per kilowatt hour.

"Class C Arc"—The kilowatt hours of energy furnished in any one month to any consumer in excess of 500 kilowatt hours, 4 cents per kilowatt hour.

A minimum monthly charge of 50 cents per meter of three kilowatt capacity, or less, and 30 cents for each additional kilowatt of meter capacity required, shall be made for each meter.

All energy furnished through or measured by a meter used for any incandescent lighting shall be paid for at incandescent lighting rates.

All energy furnished through or measured by a meter, used for measuring energy used in arc lighting and not for any incandescent lighting, shall be deemed arc light energy.

Upon request of consumer separate meters will be furnished for incandescent lighting, arc lighting and power and heat purposes.

Carbon and Gem lamps of such candle power as the Department can conveniently carry shall be furnished free for renewal purposes to all consumers.

	per kwh.
Average rate received from the sale of electrical energy for lighting for the past year.....	.04954
Average rate received from the sale of electrical energy for all purposes.....	.03724
Cost of all current sold, including interest and depreciation..	.03105

After paying all operating expenses and charging off interest on the total average investment, and charging up sufficient to cover depreciation, the plant had to its credit a surplus for the year ending June 30, 1914, of \$29,360.92.

I submit the following balance sheet as of June 30, 1914:

I wish to state that the depreciation fund and surplus fund have been used for extensions. Money advanced from taxes for bond interest and redemption was returned by the department for one year only. During the other years, that portion of the earnings covering the bond and interest payments, was also invested in urgently needed extensions to the distributing system.

In "Contribution from Taxes" is included the amount of money paid from the general fund for redemption of bonds as they fall due, together with interest on the bonds. The policy of this department has been not to issue any more bonds than are absolutely necessary. Therefore, the total amount of bonds issued directly for the plant was only \$325,000. The balance of the money was paid through the earnings of the plant, and through contributions from taxes. The net earnings of the plant cover the depreciation and surplus accounts; also one year's interest on bonds, and one year's redemption of bonds. "Contribution from Taxes" covers interest paid on outstanding bonds every year except one, and redemption of bonds every year except one. So long as the people prefer to finance extensions in this way, there will be no bond issues until the growth of the city demands a larger expenditure than our depreciation and surplus funds can provide.

You will notice in the balance sheet there is a loan from the general fund of \$40,000. This loan has been permitted to stand until the demand for extensions slackens and the department can return it.

In the course of competition, our competitor has at times had as many as ten or eleven solicitors at work in the field, endeavoring to secure the city's customers. As a matter of course, in conducting our department along modern business lines, we have employed and do employ able solicitors; however, not half as many as our competitor. In addition to our regular paid solicitors, we have a large number of volunteer solicitors—that is, people who are interested in the success of their municipal plant. These people solicit their neighbors' patronage. People who are coming into the city as new residents are advised of the situation, their business sought by these volunteer solicitors, and, in nearly every case, their patronage is secured. One of the fundamental principles in operating this department has been to impress this fact on the hearts and minds of our people: This is their plant, their property, and they are the stock-

holders; the low rates are their dividends, and all benefits go to them.

Any municipality entering into the light and power business must, as a matter of course, seek the business according to the most modern and legitimate methods, and must not sit back and wait for the business to come to the city plant. Even if the city has the monopoly of the field it should conduct its business with a view of serving the public in the most efficient manner, ever remembering that the customers are the employers.

We have organized what is known as the Municipal Light League, composed of customers of this department, and, whenever the private corporation has become unusually active, these people help to secure additional customers for the municipal plant. Since the establishment of the lighting department, the city has acquired all of the water plants located within the municipality and consolidated them into one system, covering the entire city, showing further that the city is not adverse to acquiring other public utilities. Electrical energy is furnished from the municipal light and power plant for pumping much of the water used within the city, and in some years this requires considerable energy. A city owning and operating her utilities can thus establish the fullest coöperation between them, thereby raising the efficiency to a maximum.

Pasadena, in the operation of her electric utility, has had an eye to humanity and has not sought to build upon the false economy of grinding down the employees of her electric utility. Conditions of employment in our plant are as good as any that we know of in our section, and better than those of most places. The working time is forty-eight hours per week for the employees—except for the office force, which is forty-four hours per week with ten days' vacation per annum. While our conditions of employment are a great deal better than those of many similar concerns, nevertheless we have some room for improvement in some respects and hope ultimately to reach our ideals.

The average opponent of municipal ownership says that it has been a great waste of money in Pasadena for the city to duplicate the existing power company's lines. As to the saving effected on the part of the citizens, I wish to refer you to the amount saved by reason of the difference in rates referred to elsewhere in this paper, which amounts to more than the total cost of the plant. And, based upon

the same reasoning, you can readily understand that the company long ago received back into its treasury the total amount of its investment in the city of Pasadena, because of the high rates they formerly charged. By reason of this difference in rates, the citizens have the value of their electric utility already saved, partly invested in the plant and partly in their own pockets. On the other hand, the company collected the value of its property back in high rates before the installation of the municipal plant.

Therefore, you can readily understand that, before the municipal plant was built, the citizens paid enough in rates to give the company back its money, and since the municipal plant has been built (seven years ago) the people have stopped paying this extra tribute to the public service corporation and have saved the value of their plant. To be sure, there are two plants in Pasadena; yet the people have suffered far less economic loss than if the old condition had continued unchanged.

We must conclude that where a city cannot purchase the utility it desires, the same methods employed by Pasadena can be repeated. It may not be possible to do this in every community, but we know from experience that it can be brought about in many of our American municipalities.

The argument put forth by the opponents of municipal ownership is that rates are not the only thing to be considered. I want to answer that by the statement that the controversies and contentions over rates are at the bottom of most of our public utility disputes. The price paid for electricity, gas, etc., is a tax collected monthly instead of at the end of the year. We all agree that service should be A-1 and reasonable in price. It must be acknowledged that the disputes and the clashing of interests of the public and public service corporations are at the bottom of many, if not most, of the scandals of American municipalities. As an illustration, referring to our own section of the country, San Francisco's public service corporations were the direct cause of the disgraceful acts on the part of some of the city officials who ultimately landed in the penitentiary.

As American cities take over all profit earning utilities, there will be a manifest increase in efficiency in municipal government. This will eliminate the public service corporations' tendency to influence public officials, and will take them out of politics. There will not be the incentive to put into public offices men who will do their

bidding. Then city officials can give all their time to the conduct of the city's affairs and its utilities, without having to fight off public service corporations; then American cities will offer greater attractions and greater incentives to young men to enter the service of a municipality. We are told that, under municipal operation, the management will not be as good as under private management; that, although cities can have cheaper money for the utility, they will render poorer service. It will be far easier to deal with employees of these municipally owned utilities than it will be to control and regulate public service corporations as they exist today. The fact is, we find that municipal employees, operating the city's utilities, feel a great interest in the city's properties; they realize that they, in a measure, are stockholders, and if the city sets a high standard of working conditions, with reasonable pay, there will be no obstacles, no complaint or trouble in getting along with the employees operating the various utilities. Municipalities will, of course, employ practically the same employees that are now used for this class of work. They will use the same boilers and generators and equipment. The machinery will not refuse to give the same service simply because it happens to be owned by a municipality.

My past and present experience leads me to believe that municipal employees will prove as loyal to the municipality as they did to the public service corporations. Witness the building of the Panama Canal! Witness the efficiency of the American navy! Witness the efficiency of some fire departments of American cities, which do not happen to be profit earning utilities, and, therefore, are not molested by private interests. We can have the same efficiency from a municipally owned and operated utility when we remove conflicting interests. The way to remove them is to municipalize all profit-earning utilities.

Statistical experts in the employ of public utility corporations have had the audacity to insult the intelligence of the American public by deliberately comparing the receipts and expenditures of the 1,500 municipally owned electric utilities throughout the United States, with the 6,000 privately owned electric utilities operating in the large cities of this country. Their purpose was to show that the public paid more per kilowatt hour to municipally owned than to privately owned utilities, and that the cost of production was less with the privately owned than with the publicly owned. Any school boy

would know that the privately owned utilities are operating in the large cities of the country and sell much of their power and light at wholesale rates, the average of which would be much lower than the average rate received in the little hamlets and villages in which most of the 1,500 municipally owned plants are conducted. The fact is, the largest municipally owned plant in the United States is in Seattle. Cleveland is now starting a still larger municipal plant. All the other cities have averaged very small.

I want to sound a word of warning against a municipality starting a power plant for street lighting only. Any city taking the trouble to build a plant for street lighting should certainly include the sale of electrical energy for all other purposes. Otherwise the plant is lying idle one-half the time. The same real estate, the same buildings, the same executive officers, and the same poles will help to supply electrical energy for other purposes, thereby reducing the overhead cost and standby charges. While some municipal plants for street lighting only have been successful in some of the largest cities, they would have been eminently more successful had they included the sale of electrical energy for all purposes.

Municipal ownership is on the increase on the Pacific coast, as is indicated by the recent vote on the part of the citizens of Los Angeles, at which time bonds to the amount of \$6,500,000 were voted for building a 40,000 horsepower electric plant, for both street lighting and commercial light and power. It will be a much larger plant than that of any other municipality in the United States, and will ultimately be increased to a capacity of approximately 150,000 horsepower as fast as the demand for current warrants doing so. This plant is to be operated in connection with the aqueduct system recently completed.

The electric light and power business is peculiarly adapted to municipal ownership, and I believe that at an early date it will be as common as municipal ownership of domestic water. Those cities which are making thorough plans to acquire electric plants without further delay will serve their people best.